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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,078	01/10/2002	Didier J. Martin	82023CPK	7521

7590 03/10/2004

EXAMINER	
KIM, SUN U	

ART UNIT	PAPER NUMBER
1723	

DATE MAILED: 03/10/2004

Paul A. Leipold
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/044,078	MARTIN, DIDIER J.	
	Examiner	Art Unit	
	John Kim	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,605,633 (hereinafter referred to as Nakamura et al) in view of U.S. Patent No. 5,766,478 (hereinafter referred to as Smith et al) and U.S. Patent No. 5,998,108 (hereinafter referred to as Martin). Nakamura et al teach a method for treating photographic waste water containing silver complex and thiosulfates comprising the steps of adding a water soluble complex forming polymer to photographic waste water to combine with silver and thiosulfate to form an insoluble polymer complex of silver, iron, etc. i.e. precipitates and separating precipitates from liquid phase by passing the waste water through ultrafiltration membrane wherein a photographic material is passed through a fixing tank (N3) and then through washing tank (W2) and finally processed in a stabilizing bath (N4) and the photographic waste water is obtained from washing tank (W2) (see figures 1-2; col. 15, lines 28-54; col. 4, line 46 – col. 5, line 8; col. 5, lines 36-44; col. 6, lines 7-28). Nakamura et al further teach that their method can reduce silver content of photographic waste water to 1 ppm and it is possible to further reduce the silver concentration in the filtrate to below 0.1 ppm with similar filtering means comprising two or more filters arranged in series (see col. 14, lines 36-58). Claims 1 and 9-10 essentially differ from the method of Nakamura et al in reciting the step of adjusting pH at a value in the range of from 3 to 6.5 and allowing the effluent to pass through a nanofiltration unit with a cutoff threshold lower than Mx. Smith et al teach a method of removing silver from photofinishing waste solutions comprising the step of adding a water soluble polymer including polyethyleneneimine to the waste solutions and adjusting pH to a lower pH between 4 and 6 to optimally bind silver thiosulfate and filtering the solutions through a filter (see figure 1; col. 50, line 59 – col. 51, line 15; col. 1, lines 6-17; col. 2, line 66 – col. 3, line 3; col. 7, lines 1-23; col. 10, lines 41-63; col. 18, line 58 – col. 19,

line 5). Martin teaches the method of removing silver and thiosulfate from photographic effluents comprising the step of passing the effluents through a nanofiltration unit having a water cutoff threshold of at least 200 to retain thiosulfate and silver complexes and yield a photographically useful permeate (see figure 1; col. 2, lines 10-12; col. 2, line 65 – col. 3, line 4; col. 3, line 31 – col. 4, line 39). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use polyethyleneimine as water soluble complexing polymer in the method of Nakamura et al by adjusting pH at a value in the range of from 3 to 6.5 for optimal binding of silver thiosulfate to the polymer and further removing silver thiosulfates by passing the effluent through nanofiltration unit to yield a photographically useful permeate as suggested by Martin. Regarding claims 2-3, Nakamura et al teach the separation of precipitates via ultrafiltration (see col. 4, lines 46-59). Regarding claim 4, Smith et al teach that pH is adjusted to an optimal pH in the claimed range (see col. 50, line 59 – col. 51, line 16). Regarding claims 5-6, Smith et al teach polyethyleneimine as a water soluble complexing polymer (see col. 10, lines 41-66; col. 18, line 58 – col. 19, line 5). Regarding claims 7-8, Smith et al teach that the concentration of the water soluble polymer is from about 0.001 weight to volume percent to about 25 weight to volume percent of final mixed solution (see col. 14, line 66 – col. 15, line 3). Assuming that the density of final mixed solution is 1 g/l, 0.001 wt/vol % to 25 wt/vol % of water soluble polymer is 0.001 g/l to 25 g/l. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the quantity of polyethyleneimine in the range of from 15 to 20 g/l, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

2. Applicant's arguments filed 12/24/03 have been fully considered but they are not persuasive. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant argues that Nakamura and Smith describe the ability to remove silver compounds from spent effluents but without any impact on thiosulfates concentration and without any water recycling possibility. Martin describes the ability to remove silver and thiosulfates species but with some limitations in terms of recycling rate as a function of the spent effluent composition. Furthermore, applicant argues that neither Nakamura nor Smith teaches or describes that the polyethyleneimine polymer can impact the thiosulfates concentration and the filtration step. However, Nakamura teaches that the water soluble complex-forming polymer attacks a complex e.g. silver thiosulfates to form an insoluble polymer-complex of silver, iron, etc (see col. 6, lines 17-28) and furthermore teaches a filtration step (see col. 11, lines 57-67). Smith also teaches that water soluble polymers including polyethyleneimine binds silver thiosulfates and filtered through a filter unit with a 10,000 MWCO membrane to retain silver (see col. 10, lines 41-50; col. 18, lines 58-59; col. 50, lines 59 – col. 51, line 15). Furthermore, claims 1 and 5-6 as presently claimed recite that one agent able to combine with the silver and/or thiosulfate. At the least, Nakamura and Smith teach the complex formation of one agent combining with silver and filtering the complex with filter to retain silver.

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kim whose telephone number is (571) 272-1142. The examiner can normally be reached on weekdays from 7:00 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (571) 272-1151. The fax phone number for official response is (703) 872-9306.

When sending a draft amendment by fax, please mark the paper as "DRAFT"; otherwise, mark the paper "OFFICIAL". This will expedite the processing of the paper.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.

John Kim
Primary Examiner
Art Unit 1723

J. Kim
March 2, 2004